

Table J-46. Nevada routing sensitivity cases analyzed for a legal-weight truck.

Case	Description
Case 1	To Yucca Mountain via Barstow, California, using I-15 to Nevada 160 to Nevada 160 (Nevada D and F)
Case 2	To Yucca Mountain via Barstow using I-15 to California route 127 to Nevada 373 to US 95 (Nevada C)
Case 3	To Yucca Mountain via Needles using U.S. 95 to Nevada 164 to I-15 to California 127 to Nevada 373 and U.S. 95 (Nevada E)
Case 4	To Yucca Mountain via Needles using U.S. 95 to Nevada 164 to I-15 to Nevada 160 (variation of Nevada E)
Case 5	To Yucca Mountain via Wendover using U.S. 93 Alternate to U.S. 93 to U.S. 6 to U.S. 95 (Nevada B)
Case 6	To Yucca Mountain via Wendover using U.S. 93 Alternate to U.S. 93 to Nevada 318 to U.S. 93 to I-15 to the Las Vegas Beltway to U.S. 95 (Nevada A)
Case 7	To Yucca Mountain via Las Vegas using I-15 (for shipments entering Nevada at both the Arizona and California borders) to U.S. 95 (Spaghetti Bowl interchange)

J.3.2 ANALYSIS OF INCIDENT-FREE TRANSPORTATION IN NEVADA

The analysis of incident-free impacts to populations in Nevada addressed transportation through urban, suburban, and rural population zones. The population densities used in the analysis were determined using Geographic Information System methods, population data from the 1990 Census, and projected populations along the Las Vegas Beltway (DIRS 155112-Berger 2000, pp. 59 to 64). The analysis extrapolated impacts to account for population growth to 2035. The populations within the 800-meter (0.5-mile) regions of influence used to evaluate the impacts of incident-free transportation for legal-weight truck, heavy-haul truck, and rail shipments are listed in Table J-35. The table lists the estimated 2035 populations.

Average highway vehicle densities for Nevada were calculated from vehicle traffic counts on Interstate and primary U.S. highways in Nevada counties that would be used for transporting spent nuclear fuel and high-level radioactive waste (DIRS 156930-NDOT 2001, all). The analysis used the average speed of trains on a branch rail line in Nevada from (DIRS 101214-CRWMS M&O 1996, Volume 1, Section 4, Branch Line Operations Plan). Heavy-haul trucks in Nevada would be escorted. The analysis assumed that heavy-haul truck shipments would originate in Caliente, Nevada, and would stop overnight en route to the repository. Input parameters for analysis of incident-free transportation in Nevada that differ from, or are additional to, values used to analyze impacts outside the State, are listed in Table J-49. Parameters not listed in this table are the same as those listed in Tables J-15 and J-17. Unit risk factors for incident-free transportation in Nevada are listed in Table J-50.

Results for incident-free transportation of spent nuclear fuel and high-level radioactive waste for Inventory Modules 1 and 2 are presented in Section J.3.4.

J.3.3 ANALYSIS OF TRANSPORTATION ACCIDENT SCENARIOS IN NEVADA

Section J.1.4 discusses the methodology for estimating the risks of accidents that could occur during rail and truck transportation of spent nuclear fuel and high-level radioactive waste. Section J.3.5 describes the results of the accident risk analysis for Inventory Modules 1 and 2.

J.3.3.1 Intermodal Transfer Station Accident Methodology

Shipping casks would arrive at an intermodal transfer station in Nevada by rail, and a gantry crane would transfer them from the railcars to heavy-haul trucks for transportation to the repository. The casks, which would not be opened or altered in any way at the intermodal transfer station, would be certified by the Nuclear Regulatory Commission and would be designed for accident conditions specified in 10 CFR Part 71. Impact limiters, which would protect casks against collisions during transportation, would remain in place during transfer operations at the intermodal transfer station.